

What is claimed is:

1. A method of manufacturing a magnetic recording medium comprising:

5 a recording layer formation step of forming a recording layer onto a substantially flat base surface of a dummy, with the base surface side serving as a front surface;

a substrate attaching step of attaching a substrate onto a back surface side of the recording layer; and

a dummy removal step of removing the dummy.

10 2. The method of manufacturing a magnetic recording medium according to claim 1, wherein

the dummy is made of silicon material, and the dummy removal step involves dissolving and removing the dummy with an alkali solution.

15 3. The method of manufacturing a magnetic recording medium according to claim 1, further comprising a protective layer formation step of forming a protective layer for protecting a front surface of the recording layer onto the base surface of the dummy, before the recording layer
20 formation step.

4. The method of manufacturing a magnetic recording medium according to claim 2, further comprising a protective layer formation step of forming a protective layer for protecting a front surface of the recording layer onto the
25 base surface of the dummy, before the recording layer

formation step.

5. The method of manufacturing a magnetic recording medium according to claim 3, wherein

the protective layer is made of a diamond-like carbon material.

6. The method of manufacturing a magnetic recording medium according to claim 4, wherein

the protective layer is made of a diamond-like carbon material.

10 7. The method of manufacturing a magnetic recording medium according to claim 1, further comprising a soft magnetic layer formation step of forming a soft magnetic layer onto the back surface side of the recording layer, between the recording layer formation step and the substrate attaching
15 step.

8. The method of manufacturing a magnetic recording medium according to claim 2, further comprising a soft magnetic layer formation step of forming a soft magnetic layer onto the back surface side of the recording layer, between the
20 recording layer formation step and the substrate attaching step.

9. The method of manufacturing a magnetic recording medium according to claim 3, further comprising a soft magnetic layer formation step of forming a soft magnetic layer
25 onto the back surface side of the recording layer, between the

recording layer formation step and the substrate attaching step.

10. The method of manufacturing a magnetic recording medium according to claim 5, further comprising a soft magnetic layer formation step of forming a soft magnetic layer onto the back surface side of the recording layer, between the recording layer formation step and the substrate attaching step.

11. The method of manufacturing a magnetic recording medium according to claim 7, further comprising:

a recording layer dividing step of forming a groove in the recording layer to divide it into a number of fine recording elements between the recording layer formation step and the soft magnetic layer formation step, and

15 a non-magnetic material filling step of filling a non-magnetic material into at least a part of gaps between the recording elements between the recording layer dividing step and the soft magnetic layer formation step.

12. The method of manufacturing a magnetic recording medium according to claim 11, wherein

the non-magnetic material is a diamond-like carbon material.

13. A magnetic recording medium, comprising:

a divided recording layer comprising a number of fine recording elements;

a soft magnetic layer formed to a back surface of the divided recording layer such that a portion thereof forms a protrusion protruding into a gap between the recording elements; and

5 a non-magnetic material filled into gaps between the recording elements so as to create a separation between the protrusion of the soft magnetic layer and the recording element.

14. The magnetic recording medium according to claim 13,
10 wherein

the non-magnetic material is formed from up to the back surface side of the divided recording layer, and a protective layer is formed to a front surface side of the divided recording layer, and each recording element is sealed inside
15 the non-magnetic material and the protective layer.

15. A magnetic recording medium, comprising:

a divided recording layer comprising a number of fine divided recording elements;

a protective layer formed to a front surface of the
20 divided recording layer; and

a non-magnetic material formed in a gap between the recording elements and to a back surface side of the divided recording layer,

wherein each recording element is sealed inside the non-
25 magnetic material and the protective layer.

16. The magnetic recording medium according to claim 13,
wherein

the non-magnetic material and the protective layer are
made of the same material.

5 17. The magnetic recording medium according to claim 14,
wherein

the non-magnetic material and the protective layer are
made of the same material.

10 18. The magnetic recording medium according to claim 15,
wherein

the non-magnetic material and the protective layer are
made of the same material.

19. The magnetic recording medium according to claim 16,
wherein

15 the non-magnetic material and the protective layer are
made of a diamond-like carbon.

20. The magnetic recording medium according to claim 17,
wherein

the non-magnetic material and the protective layer are
20 made of a diamond-like carbon.